

## Master's Degree in Molecular Biomedicine - BMM7 Module

### Frontiers in Cardiovascular Research Course 2025-2026

**January 8, 2026**

#### **CNIC Auditorium**

09:30-10:00 Welcome by BMM7 coordinators:  
Valentín Fuster, Héctor Bueno, Henar Cuervo y Fátima Sánchez-Cabo

**Principles of heart structure and function.  
Advances in the pathophysiology of cardiovascular disease**

10:00-11:00 Cardiovascular disease: Needs and opportunities for translational research  
**Héctor Bueno, CNIC**

**January 9, 2026**

#### **Seminar Room 3<sup>rd</sup> Floor & Laboratories 2<sup>nd</sup> floor, South Wing**

09:30-11:00 Anatomy and physiology of the heart (I): Basic concepts of heart anatomy  
(i.e. pig heart dissection)  
**José María Pérez-Pomares, Universidad de Málaga**

**January 12, 2026**

#### **CNIC Auditorium / Seminar Room 3<sup>rd</sup> Floor**

09:30-11:00 Anatomy and physiology of the heart (II): Basic concepts in cardiac echocardiography: in situ echocardiogram; interpretation of normal heart and basic abnormalities  
**Inés García Lunar, CNIC**

**January 13, 2026**

#### **CNIC Auditorium**

09:30-11:00 Developmental biology of the heart I  
**Bjarke Jensen, University of Amsterdam**

## January 14, 2026

### CNIC Auditorium

- 09:30-10:15 Genetic and Developmental Basis of Congenital Heart Disease and Cardiomyopathies  
**José Luis de la Pompa, CNIC**
- 10:15-11:00 Experimental models in cardiovascular research: Myocardial ischemia  
**Enrique Lara-Pezzi, CNIC**

## January 15, 2026

### CNIC Auditorium

- 09:30-10:15 The normal cardiac impulse propagation and its structural and functional alterations that may lead to ventricular arrhythmia  
**Andrés Redondo, CNIC**
- 10:15-11:00 Rescuing the heart from the tornadoes of sudden cardiac  
**José Jalife, CNIC**

## January 16, 2026

### CNIC Auditorium

- 09:00-09:45 Mechanoadaptation and Caveolae Biology  
**Miguel Ángel del Pozo, CNIC**
- 09:45-10:30 Providing energy to the heart  
**José Antonio Enríquez, CNIC**

## January 19, 2026

### CNIC Auditorium

- 09:30-10:15 Aging and cardiovascular disease: From the rarest to the most common  
**Vicente Andrés, CNIC**
- 10:15-11:00 Genetic heart diseases  
**Pablo García Pavía, CNIC**

## January 27, 2026

### CNIC Auditorium

- 09:30-10:15 Vascular component in Alzheimer's disease: From mice to humans  
**Marta Cortés-Canteli, CINC-CSIC & CNIC**
- 10:15-11:00 Translational research in cerebrovascular pathophysiology  
**M<sup>a</sup> Ángeles Moro, CNIC**

## Unravelling traditional and new mechanisms of cardiovascular disease. New technologies, new therapeutic approaches

### January 28, 2026

#### CNIC Auditorium

- 09:30-10:15 Beyond traditional risk factors: Acquired mutations as a shared driver of cardiovascular disease and cancer  
**José Javier Fuster, CNIC**
- 10:15-11:00 Functional assessment and molecular pathomechanisms of genetic variants linked to heart disease  
**Jorge Alegre-Cebollada, CNIC**

### January 29, 2026

#### CNIC Auditorium

- 09:30-11:00 Translational research in myocardial disease: cancer therapy cardiotoxicity as a role model  
**Borja Ibáñez, CNIC**

### January 30, 2026

#### CNIC Auditorium

- 09:30-10:15 Nanomedicine for cardiovascular disease  
**Carlos Pérez Medina, CNIC**
- 10:15-11:00 Cardiac tissue engineering and regenerative therapies  
**Florian Weinberger, CNIC**

### February 2, 2026

#### CNIC Auditorium

- 09:30-10:15 B lymphocytes and antibodies in cardiovascular disease  
**Almudena R. Ramiro, CNIC**
- 10:15-11:00 Novel diagnosis and therapies for inflammatory heart syndromes  
**Pilar Martín, CNIC**

## February 3, 2026

### CNIC Auditorium

- 09:00-09:45 Interpreting statistics in clinical trials.  
**Stuart Pocock**, CNIC/London School of Hygiene and Tropical Medicine
- 09:45-10:30 How can artificial intelligence help understanding cardiovascular disease  
**Fátima Sánchez-Cabo**, CNIC

## February 4, 2026

### CNIC Auditorium

- 09:30-10:15 Heart Regeneration; animal models and translational strategies  
**Miguel Torres**, CNIC
- 10:15-11:00 Angiogenesis and its relevance for cardiovascular disease  
**Henar Cuervo**, CNIC

## February 5, 2026

### CNIC Auditorium

- 09:30-10:00 The Telomere Analysis Technology and database from Life Length. Is telomere length a biomarker of cardiovascular health?  
**Enrique Samper**, Life Length
- 10:00-10:30 Translational investigation in a biotech company  
**Macarena Hernández**, UCM
- 10:30-11:00 From Biological Insight to Digital Innovation: Biologists Powering Personalized Data Platforms  
**Paolo Maeitta**, Genomcore

## Practical Workshops

## February 6, 2026

### Seminar Room 3<sup>rd</sup> Floor

- 09:30-11:00 Genomics  
**Ana Quintas, Rebeca Álvarez, M<sup>a</sup> Ascensión Rey**, CNIC

## Frontiers in cardiovascular research 2025

**February 9, 2026**

### CNIC Auditorium

- 09:30-10:15 Imidazole propionate is a driver and therapeutic target in atherosclerosis. *Nature*. 645, pages 254–261 (2025)  
doi: 10.1038/s41586-025-09263-w  
**Annalaura Mastrangelo, CNIC**
- 10:15-11:00 Matrix-producing neutrophils populate and shield the skin. *Nature*. 641, pages 740–748 (2025) doi: 10.1038/s41586-025-08741-5  
**Tommaso Vicano, CNIC**

## Practical Workshops

**February 10, 2026**

### Seminar Room 3<sup>rd</sup> Floor

- 09:30-11:00 Model systems (I): mouse-transgenesis  
**Juan de Dios Hourcade, CNIC**

**February 11, 2026**

- 09:30-11:00 Proteomics & Metabolomics  
**Juan Antonio López & Alessia Ferrarini, CNIC**

**February 12, 2026**

### Sótano -3 – Animal grande

#### GROUP 1:

- 09:00-09:45 Cardiovascular image  
**Gonzalo Pizarro, Carlos Galán, CNIC**

#### GROUP 2:

- 09:45-10:30 Cardiovascular image: RM & PET  
**Gonzalo Pizarro, Carlos Galán, CNIC**

**February 13, 2026**

### Seminar Room 3<sup>rd</sup> Floor

- 09:30-11:00 Model systems (II): Zebrafish  
**Eduardo Díaz, María Galardi, CNIC**

## February 16, 2026

### Seminar Room 3<sup>rd</sup> Floor

09:30-11:00 Viral Vectors

## February 17, 2026

### Seminar Room 3<sup>rd</sup> Floor

09:30-10:00 Introduction Seminar Microscopy Unit  
**Valeria Caiolfa, CNIC**

10:00-10:30 Cardiovascular disease modelling: culture, differentiation and gene editing in mESC and hiPSC  
**Giovanna Giovinazzo, CNIC**

## February 18, 2026

### Seminar Room 3<sup>rd</sup> Floor

#### GROUP 1: Cell Culture Room

09:00-10:00 Cardiovascular disease modelling: culture, differentiation and gene editing in mESC and hiPSC  
**Elisa Santos, Belén Prados, CNIC**

#### GROUP 2: Microscopy Unit 2<sup>nd</sup> Floor West

09:00-10:00 Advance confocal and live cell microscopy  
**Elvira Arza, Olga Giménez, M<sup>a</sup> Dolores López Maderuelo, CNIC**

#### GROUP 1: Microscopy Unit 2<sup>nd</sup> Floor West

10:00-11:00 Advanced confocal and live cell microscopy  
**Alfonsa Diaz, Verónica Labrador, Moreno Zamai, CNIC**

#### GROUP 2: Cell Culture Room

10:00-11:00 Cardiovascular disease modelling: culture, differentiation and gene editing in mESC and hiPSC  
**Elisa Santos, Belén Prados, CNIC**

## February 19, 2026

### Seminar Room 3<sup>rd</sup> Floor

09:30-11:00 Flow cytometry  
**Beatriz Álvarez, Norman Muñoz, CNIC**

## Unravelling traditional and new mechanisms of cardiovascular disease. New technologies, new therapeutic approaches

**February 20, 2026**

**CNIC Auditorium**

09:30-11:00 Cardiovascular health and disease: Present and Future  
**Valentin Fuster**

### Practical Workshops

**February 23, 2026**

**Seminar Room 3<sup>rd</sup> Floor**

09:30-11:00 Bioinformatics and Biostatistics  
**Fátima Sánchez Cabo, Carlos Torroja, CNIC**

### BMM7 student presentations

**February 25, 2026**

**Seminar Room 3<sup>rd</sup> Floor**

09:30-11:00 Student presentations  
Moderators: Héctor Bueno, Henar Cuervo y Fátima Sánchez-Cabo (CNIC)